Drought Information Statement

WFO Little Rock, AR

Issued: December 2, 2011

Synopsis

An exceptional drought continued in far southwest Arkansas to begin December.

Drought Monitor

The U.S. Drought Monitor is available online at **http://www.drought.unl.edu/dm**. It is a collaborative effort between several government and academic partners. The U.S. Drought Monitor is issued each Thursday morning and takes into account hydro-meteorological data through 7 AM Tuesday. There are four levels of drought: D1 (moderate), D2 (severe), D3 (extreme), and D4 (exceptional).

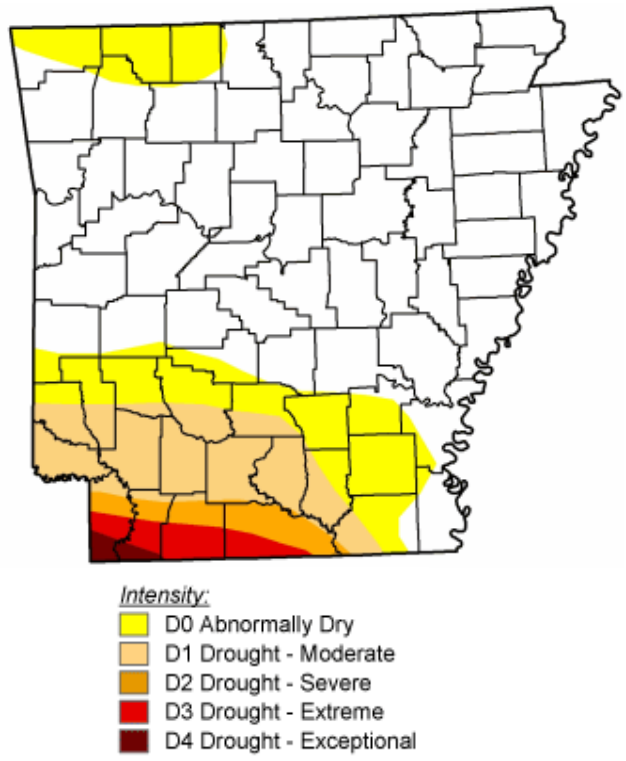

Figure 1 – U.S. Drought Monitor for November 29, 2011.

The latest U.S. Drought Monitor (Figure 1), issued November 29, 2011, indicated D2 to D4 conditions in far southwest Arkansas (four counties). There were D1 conditions farther north and east toward De Queen (Sevier County), Fordyce (Dallas County) and Crossett (Ashley County).

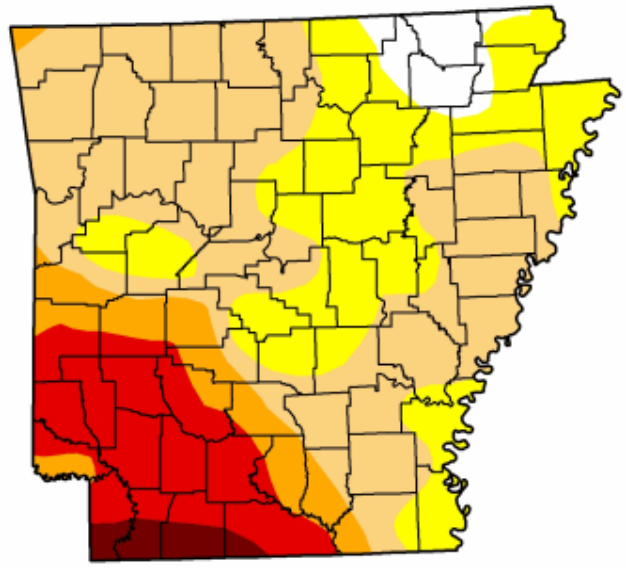

Figure 2 – Same as Figure 1, but issued November 1, 2011.

Climate Data and Analysis

In 2010, southern and eastern sections of the state experienced well below normal rainfall (Figure 3). Rainfall deficits were more than 17 inches in some areas. In the far southeast, rainfall was as little as 25 to 50 percent of normal.

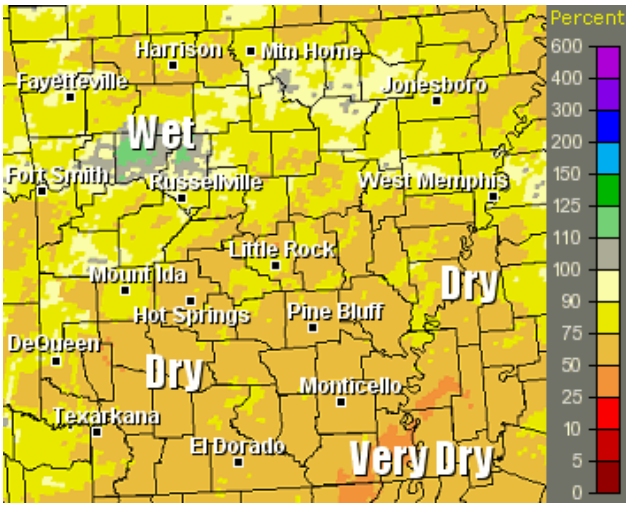

Figure 3 – Percent of normal rainfall in 2010.

Precipitation in 2010

Site	Amount	+/-	% of Normal
Fayetteville (NW AR)	*42.15*	*-3.87*	*92%*
Harrison (NC AR)	*46.12*	*+0.92*	*102%*
Jonesboro (NE AR)	*32.22*	*-13.96*	*70%*
Fort Smith (WC AR)	*35.27*	*-8.60*	*80%*
Little Rock (C AR)	*36.52*	*-14.41*	*72%*
W Memphis (EC AR)	*51.83*	*-0.97*	*98%*
Texarkana (SW AR)	*29.53*	*-17.85*	*62%*
El Dorado (SC AR)	*34.23*	*-19.88*	*63%*
Pine Bluff (SE AR)	*31.97*	*-20.51*	*61%*

Rainfall through November, 2011 suggested the situation was becoming as dire as a year ago in the southwest. Totals were at/above normal in the north.

Precipitation in 2011 (thru November)

Site	Amount	+/-	% of Normal
Fayetteville (NW AR)	*53.08*	*+9.92*	*123%*
Harrison (NC AR)	*48.27*	*+7.33*	*118%*
Jonesboro (NE AR)	*50.32*	*+6.99*	*116%*
Fort Smith (WC AR)	*43.12*	*+0.95*	*102%*
Little Rock (C AR)	*52.49*	*+7.71*	*117%*
W Memphis (EC AR)	*47.14*	*-0.02*	*100%*
Texarkana (SW AR)	*25.01*	*-19.59*	*56%*
El Dorado (SC AR)	*28.24*	*-19.50*	*59%*
Pine Bluff (SE AR)	*39.71*	*-6.00*	*87%*

The south mostly missed out on one of the wettest months of the year in November. Parts of northern and central Arkansas had 200 to 300 percent of normal rainfall (Figure 4).

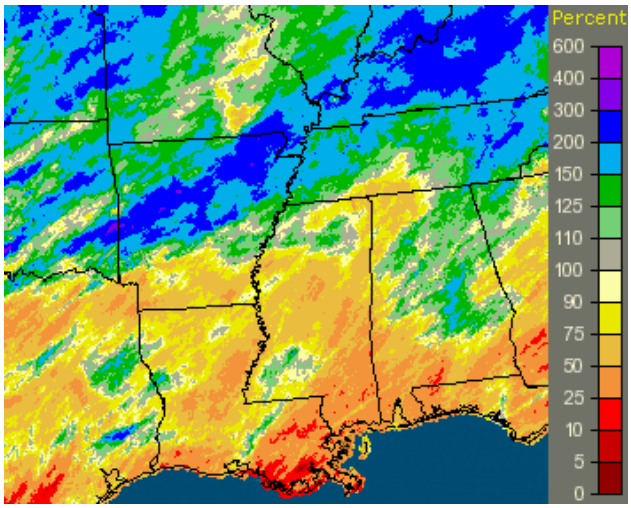

Figure 4 – Percent of normal rainfall in November, 2011.

Little Rock (Pulaski County) had the wettest November on record with 14.57 inches. Meanwhile, El Dorado (Union County) and Texarkana (Miller County) had 60 to 70 percent of normal precipitation (1 to 2 inch deficits).

Precipitation in November, 2011

Site	Amount	+/-	% of Normal
Fayetteville (NW AR)	*6.98*	*+2.74*	*165%*
Harrison (NC AR)	*5.85*	*+1.62*	*138%*
Jonesboro (NE AR)	*10.50*	*+5.60*	*214%*
Fort Smith (WC AR)	*7.19*	*+2.75*	*162%*
Little Rock (C AR)	*14.57*	*+9.29*	*276%*
W Memphis (EC AR)	*8.55*	*+3.60*	*173%*
Texarkana (SW AR)	*2.89*	*-1.93*	*60%*
El Dorado (SC AR)	*3.31*	*-1.58*	*68%*
Pine Bluff (SE AR)	*5.92*	*+1.09*	*123%*

Soil Moisture/Hydrology

Looking at drought indicators, the southwest was the only area of concern. Streamflow was lackluster in this part of the state, with inflated water levels farther north. Reservoirs in the north (and in southern Missouri) were at least 95 percent of capacity (Figure 5).

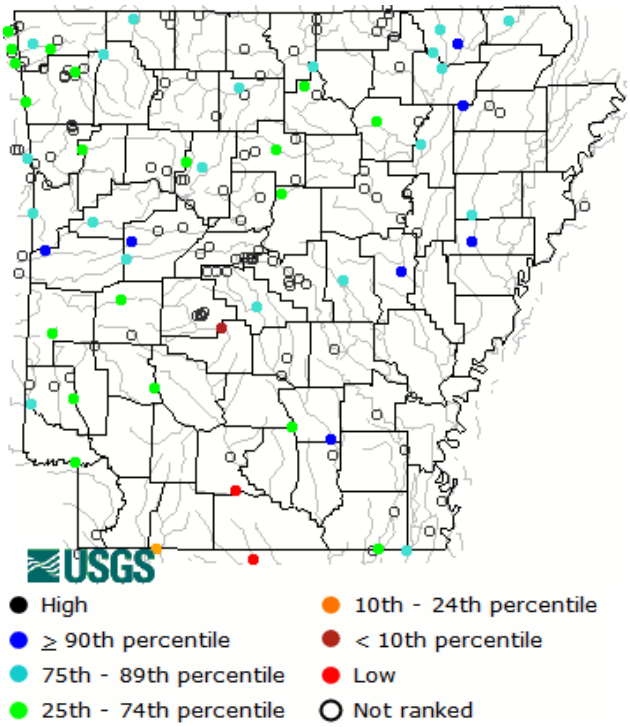

Figure 5 – At or below normal streamflow (the 25th to 74th percentile or less) was confined to southwest Arkansas on December 1, 2011 (source: USGS).

Soil moisture followed streamflow trends (Figure 6). Ground water was least available in the south/west. November rain saturated the ground in the northern counties.

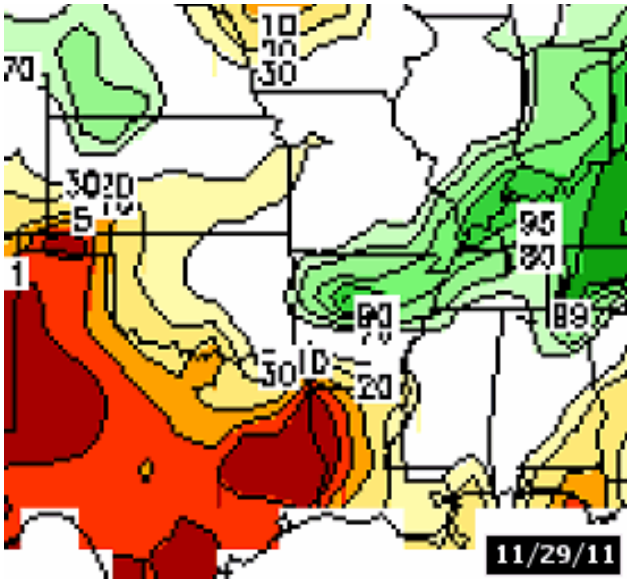

Figure 6 – Soil moisture was well above normal in northern Arkansas, and much below normal in the south/west on November 29, 2011. Values from 30 to 70 percent are considered normal.

A long period of subpar rain in the southwest stressed vegetation, and plants dried out. This increased the wildfire concern (Figure 7).

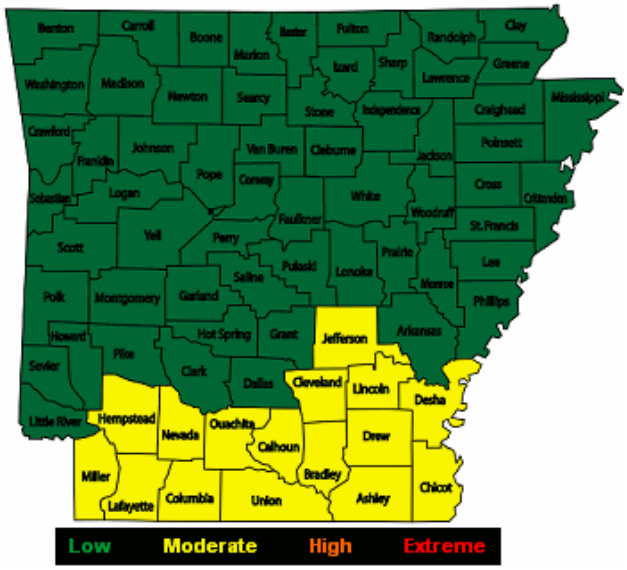

Figure 7 – A moderate fire danger was noted in southern Arkansas on November 30, 2011 (source: Arkansas Forestry Commission).

There was a moderate fire danger in the southern counties as of November 30th.

Final Note

Through November, some spots in the north had more than double the rainfall of the drought stricken southwest. Fayetteville (Washington County) had more rain in April and May (26.78 inches) than Texarkana (Miller County) got all year (25.01 inches)! This two month time frame was one of the wettest periods across the state in 2011 (Figure 8).

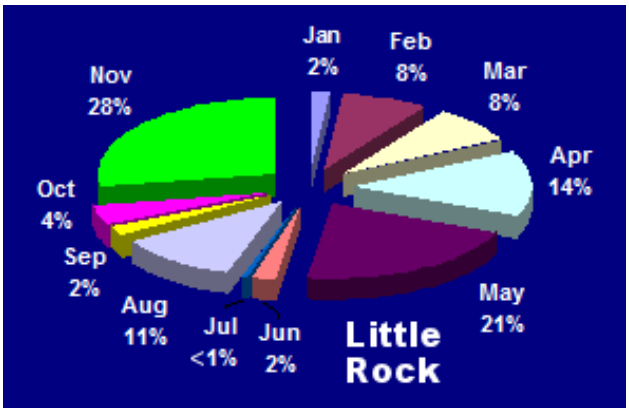

Figure 8 – Precipitation distribution by month in 2011 (through November). At most locations in Arkansas, the wettest months were April, May and November. June, July and October were the driest.

Forecast

Looking ahead, a wet pattern will continue into the first half of December. Rainfall could be significant in the southwest, with drought relief likely. After that, La Niña (i.e. cooler than normal water in the equatorial Pacific Ocean) will become dominant during much of the winter. This usually results in below normal precipitation from the southern Plains into areas along the Gulf Coast.

In Arkansas, drier than normal conditions will be most likely in the south/west where drought conditions have been persistent. During periods of unsettled weather, the north/east will have the greatest chances for significant precipitation.

Late in the winter and into early spring, a wet pattern may unfold...which is common during a La Niña episode. In 2011, the start of this rainy period (and severe weather) was delayed by round after round of cold air from Canada. Warmth and moisture (unstable air) mostly stayed to the south, and didn't surge into the region until April/May. This was an atypical La Niña scenario, with periods of thunderstorms often beginning as early as January/February.

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